PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application	:	Emiliano Ghinelli
Application No.	:	10/665,188
Filed	:	September 17, 2003
Confirmation No.	:	5560
For	:	USE OF A HUMAN AMNIOTIC MEMBRANE COMPOSITION FOR PROPHYLAXIS AND TREATMENT OF DISEASES AND CONDITIONS OF TH EYE AND SKIN
Examiner	:	Taeyoon Kim
Attorney's Docket	:	EMIL-001XX

TC Art Unit: 1651

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on March 20, 2007.

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DECLARATION OF EMILIANO GHINELLI, M.D. UNDER §1.131

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Emiliano Ghinelli declare:

1. I am a Medical Doctor, holding at the present time the position of Medico Chirurgo Oculista at Casa di cura Polispecialistica Dott. Pederzoli, Via Montebaldo 24, Peschiera del Garda 37019(VR), Italy.

2. I am the inventor of the invention described and claimed in the above-identified patent application.

3. I have read and understood the Office Action of the Examiner dated October 20, 2006, rejecting the pending claims, claims 10-12, in the above-identified application for anticipation by Wang et al.

4. The invention described and claimed in the instant application is directed to a novel formulation for the therapeutic components of amniotic membrane, e.g., human amniotic membrane, a pharmaceutical composition that includes a therapeutically effective amount of an amniotic membrane extract preparation (AMX) consisting essentially of a powdered form of a lyophilized amniotic membrane homogenate supernatant, which can be reconstituted in a pharmaceutically acceptable carrier.

5. As it is based on a homogenate supernatant, the novel amniotic membrane formulation of the invention has been rid of cellular and intracellular debris. Yet, all of the important therapeutic factors determined by others to be present in an amniotic membrane are also present in the formulation of the invention. These factors can not only be detected but also quantitated. Furthermore, as AMX is a homogeneous powder, the extract can be reconstituted in a pharmaceutically acceptable carrier at the concentration desired for a particular application, e.g., as in the original membrane or several times

more concentrated than the original membrane to treat diseases not treatable by others using previously known amniotic membrane preparations. Thus, the amniotic membrane extract formulation according to the invention has the healing properties of amniotic membrane tissue, but at an enhanced level, and can be used as described in the instant application without the need for costly surgery.

6. In the Office Action, the Examiner has stated that pending claims 10-12 are rejected as anticipated by Wang et al., US Pat. No. 5,932,205. The Examiner points specifically to Examples 1 and 6 in Wang et al., stating:

> Wang et al. teach a pharmaceutical composition comprising an amniotic membrane extract in PBS solution (ophthalmic solution) (Example 1) and contact lens as a pharmaceutically acceptable carrier which is treated with the amniotic membrane extract in PBS solution (Example 6).

7. In my opinion as one of skill in the use of amniotic membrane preparations, the products described in Wang et al. are not at all like the products claimed in the instant application. To repeat, in one format, my novel formulation is "a pharmaceutical composition that includes a therapeutically effective amount of an amniotic membrane *extract* preparation (AMX) consisting essentially of a *powdered form* of a *lyophilized* amniotic membrane *homogenate supernatant reconstituted* in a pharmaceutically acceptable carrier." All of the words I have italicized provide important points of distinction between my invention and the products taught in Wang et al.

8. *"Extract"* - In the products of my invention, the therapeutically important factors of the amnion have been "extracted" from the cellular and intracellular debris, the physical structure of the membrane. However, in Example 1 of Wang et al., the amniotic membrane is not even truly broken up but only cut into pieces. The PBS solution mentioned in this Example is used only for washing the membrane, not as a "carrier" as it can be for my reconstituted extract.

9. *"Homogenate supernatant"* - For my invention, this term is the companion to *"extract."* The physical form of the amniotic membrane processed to product my extract is the *"supernatant"* of a centrifuged *"homogenate"* of the membrane, *"homogenate"* being a term meaning the result of a process that breaks up a solid material into a "homogeneous" product. In none of the examples of Wang et al., and in particular, neither in Example 1 nor Example 6, is there disclosed a *"homogenate"* as that term is known to those of skill in the art, and, most particularly, a *"homogenate supernatant"* is not taught nor suggested as the "concoction" of Wang et al. is never centrifuged.

10. *"Lyophilized powder"* - One of the most important properties of AMX, my novel amniotic membrane extract, is that it can be stored for much longer periods of time than prior art products. Furthermore, it can be reconstituted in a carrier to form a therapeutic composition in a *quantitative* manner, i.e., so that the concentrations of the therapeutic factors are known. These

properties derive from the fact that my novel extract is in *"lyophilized powder"* format, which can then be reconstituted in the manner most appropriate for the specific application. There is no teaching in any of the examples of Wang et al., including no teaching in Examples 1 and 6, of this format for an amniotic membrane preparation, a format that is central to my novel formulation.

11. Given these differences I have recited, it is my opinion as one of skill in the art that the products disclosed in Wang et al. are completely different from those of my invention, and, thus, the teachings of Wang et al. cannot anticipate my invention as claimed in the instant application.

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I hereby declare that all statements made herein on personal knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signed this 17 day of March, 2007.

Emiliano Ghinelli

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